

IN THE CLAIMS:

On substitute page 19, line 1, please cancel "Patent claims" and substitute:

--I CLAIM AS MY INVENTION:-- therefor.

5 Cancel claims 1-16 appearing on substitute pages 19-23, and add the following new claims.

1-16. (Cancelled)

17. (New) A method for operating a tomography apparatus comprising the steps of:

10 positioning a first examination subject relative to a rotatable tomographic scanning unit;

conducting a tomography examination of said first examination subject by rotating said scanning unit relative to said first examination subject to acquire tomography data from the first examination subject, at a rotation frequency selected, dependent on a type of
15 said examination of said first examination subject, from among a plurality of different rotation frequencies;

removing said first examination subject from said scanning unit and positioning a second examination subject relative to said
20 scanning unit;

conducting a tomography examination of said second examination subject by rotating said scanning unit relative to said second examination subject, to acquire tomography data from the second examination subject, at a rotation frequency, selected,
25 dependent on a type of said examination of said second subject, from among said plurality of rotation frequencies; and

rotating said scanning unit without interruption from a beginning of said examination of said first examination subject through an end of said examination of said second examination subject and, when
30 neither of said first or second examination subjects is positioned

relative to said scanning unit, rotating said scanning unit at a rest frequency selected from the group consisting of a rotation frequency that is smaller than a smallest of said plurality of rotation frequencies, and a rotation frequency that is an average of said plurality of rotation frequencies.

18. (New) A method as claimed in claim 17 comprising selecting said rotation frequency, for each of said first examination subject and said second examination subject, from among a rotation frequency suitable for obtaining computed tomography data from a heart, and a rotation frequency suitable for obtaining computed tomography data from an abdomen.

19. (New) A method as claimed in claim 17 comprising a time span for said uninterrupted rotation of said scanning unit from the group of time spans comprising a work shift, a work day and more than two examinations.

20. (New) A method as claimed in claim 17 comprising employing an x-ray scanning unit as said scanning unit, having an x-ray source and an x-ray radiation detector that are rotatable around a system axis.

21. (New) A method as claimed in claim 20 wherein at least one of said examination of said first examination subject or said examination of said second examination subject comprises:

acquiring an x-ray shadow image of the examination subject while rotating said x-ray source around said examination subject;

conducting a scan of the subject, selected from the group consisting of a slice scan and a volume scan, while rotating said x-ray source around said subject and emitting x-rays from said x-ray source at a plurality of angled positions relative to said system axis, to obtain a plurality of projection data sets respectively at said angle position from x-ray radiation detected by said detector system; and

rotating said x-ray source around said examination subject without interruption from a beginning of acquisition of said x-ray shadow image through an end of said scan.

22. (New) A method as claimed in claim 21 comprising conducting
5 said scan as a spiral scan.

23. (New) A method as claimed in claim 22 wherein the step of acquiring an x-ray shadow image of the examination subject comprises:

operating said x-ray source to emit said x-rays in a pulsed manner at
an angled position that is predetermined for said x-ray shadow
10 image, and acquiring radiographic data with said x-ray radiation
detector; and

moving said x-ray source substantially parallel to said system axis and
relative to said examination subject while emitting said x-rays in
said pulsed manner.

24. (New) A method as claimed in claim 20 wherein at least one of
15 said examination of said first examination subject or said examination of said
second examination subject comprises:

conducting a scan, selected from the group consisting of a slice scan
and a volume scan, of the examination subject while emitting x-
20 rays from said x-ray source while rotating said x-ray source
through a plurality of angle positions around the examination
subject, and acquiring respective data sets with the detector
system at said angle positions, and while moving said x-ray
source substantially parallel to said system axis and relative to
25 said examination subject; and

generating an x-ray shadow image of the examination subject
simultaneously with said scan by selecting projection data for
said x-ray shadow image from the projection data sets that
accumulate during said scan.

25. (New) A method as claimed in claim 20 wherein at least one of said examination of said first examination subject or said examination of said second examination subject comprises:

5 conducting a scan, selected from the group consisting of a slice scan
 and a volume scan, of the examination subject while emitting x-
 rays from said x-ray source while rotating said x-ray source
 through a plurality of angle positions around the examination
 subject, and acquiring respective data sets with the detector
10 system at said angle positions, and while moving said x-ray
 source substantially parallel to said system axis and relative to
 said examination subject; and

 reconstructing a 3D data set from said projection data sets; and
 from said 3D data set, electronically calculating an x-ray shadow image
 of the examination subject as a synthetic projection image.

15 26. (New) A method as claimed in claim 17 comprising calibrating
 said tomography apparatus during rotation of said scanning unit

27. (New) A tomography apparatus comprising:

 a rotatable scanning unit for acquiring tomographic data;

20 a bearing device for positioning a first examination subject relative to
 said scanning unit and for subsequently removing said first
 examination subject from said scanning unit and positioning a
 second examination subject relative to said scanning unit;

25 a control unit for operating said scanning unit to conduct a tomography
 examination of said first examination subject by rotating said
 scanning unit relative to said first examination subject to acquire
 tomography data from the first examination subject, at a rotation
 frequency selected, dependent on a type of said examination of
 said first examination subject, from among a plurality of different
30 rotation frequencies, and to conduct a tomography examination
 of said second examination subject by rotating said scanning
 unit relative to said second examination subject to acquire

5 tomography data from the second examination subject, at a
rotation frequency, selected, dependent on a type of said
examination of said second subject, from among said plurality of
rotation frequencies, while rotating said scanning unit without
interruption from a beginning of said examination of said first
examination subject through an end of said examination of said
second examination subject and, when neither of said first or
second examination subjects is positioned relative to said
scanning unit, rotating said scanning unit at a rest frequency
10 selected from the group consisting of a rotation frequency that is
smaller than a smallest of said plurality of rotation frequencies,
and a rotation frequency that is an average of said plurality of
rotation frequencies.

28. (New) A tomographic apparatus as claimed in claim 27 wherein
15 said control unit conducts at least one of said examination of said first
examination subject or said examination of said second examination subject
by acquiring an x-ray shadow image of the examination subject while rotating
said x-ray source around said examination subject, conducting a scan of the
subject, selected from the group consisting of a slice scan and a volume scan,
20 while rotating said x-ray source around said subject and emitting x-rays from
said x-ray source at a plurality of angled positions relative to said system axis,
to obtain a plurality of projection data sets respectively at said angle position
from x-ray radiation detected by said detector system, and rotating said x-ray
source around said examination subject without interruption from a beginning
25 of acquisition of said x-ray shadow image through an end of said scan.

29. (New) A tomography apparatus as claimed in claim 27 wherein
said scanning unit comprises a rotating frame with a cooling device mounted
thereon, said cooling device comprising air drivers for generating an air
current of a magnitude sufficient to cool said scanning unit during rotation of
30 said rotating frame.

30. (New) A tomography apparatus as claimed in claim 27 wherein
said air drivers are air scoops.

31. (New) A tomography apparatus as claimed in claim 27 wherein said rotating frame has an exterior, and wherein said air drivers are mounted at said exterior of said rotating frame.